

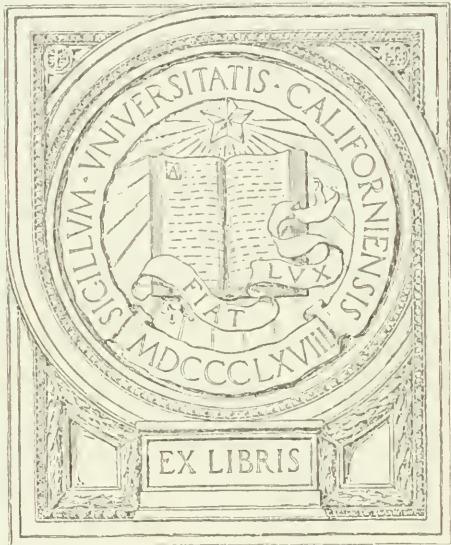
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Harvard University. Graduate School
of business administration. Bureau
of business research
bulletin

no. 4

UNIVERSITY OF CALIFORNIA
AT LOS ANGELES



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BULLETIN NO. 4
BUREAU OF BUSINESS RESEARCH

DEPRECIATION IN THE
RETAIL SHOE BUSINESS



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AT LOS ANGELES
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BULLETIN NO. 4
BUREAU OF BUSINESS RESEARCH

DEPRECIATION IN THE
RETAIL SHOE BUSINESS



CAMBRIDGE
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1915

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DEPRECIATION IN THE RETAIL SHOE BUSINESS

INTRODUCTION

Bulletin Number 2 made the following statement about depreciation in the retail shoe trade: —

DEPRECIATION OF MERCHANDISE is not insisted upon by the Bureau of Business Research, nor indeed is any depreciation account essential to the adoption of the Harvard System of Accounts for Shoe Retailers. The Bureau does *recommend earnestly*, however, that some depreciation be allowed regularly, and wishes to know from its coöperators just what method of depreciation is followed by them, and to be assured that the method is followed consistently from inventory time to inventory time. Depreciation does not affect the items of *Net Sales* (5) or of "Expense" (20-44), but it does affect materially the accuracy of the profit items — gross and net (15, 17, 45, 51, 57).

Three main methods of depreciation in use in the retail shoe trade may be described as follows: — ¹

- (a) *The arbitrary percentage method* depreciates all stock by a certain fixed percentage, usually some multiple of five, — 5 %, 10 %, 15 %, 20 %, at each inventory time. Though this is arbitrary and may be unjust to some portions of the stock, it has the advantage of working surely without being affected by human bias. When inventory is taken at billed cost the value is determined automatically, that is, by the manufacturers' or wholesalers' price to the retailer. Then the application of a percentage for depreciation makes the paring down also automatic.

Just what percentage should be employed must be determined by experience. One important shoe concern with large retailing experience employs 4 % each six months. The Bureau would not advise a depreciation, at least at the start, of less than 10 %.

¹ Concerns which customarily take cut-downs or carry depreciated stock on their books at the depreciated figures during between-inventory periods—in short, concerns which take their losses from day to day on stocks that are not selling satisfactorily—should consider this fact in using any of the above methods of depreciation. See footnote 1, page 18.

- (b) *The age-of-stock percentage method* increases the percentage of depreciation with the age of stock to which it is applied. For example, stock on hand more than one year is depreciated 50 %, stock on hand less than one year but more than six months 25 %, and stock on hand less than six months according to method (a) or method (c).
- (c) *The appraisal method* is based on the estimated market value at inventory. In theory this is the soundest method of depreciation. For both in theory and in fact the value of an article at any time is what it will bring at that time. Unfortunately what an unsold shoe will bring does not depend upon the manager's or stocktaker's judgment, for he may be too optimistic or too pessimistic, or for other reasons may err. However, if a concern has confidence in its estimates of the market value of shoes unsold at inventory date, it may proceed in the following way: —

Upon its inventory books, or sheets, provide three columns 1, 2, and 3 (the first two to be filled in detail, the third to be used for test purposes). In Column 1 enter the billed cost of the shoe, with no discount deducted; in Column 2 enter the price at which it is thought the shoe will surely sell. Then to the total of all items in Column 2 apply the percentage of average gross profit (including discounts taken) for the last two years and deduct the amount thus obtained from the total of Column 2. This percentage of gross profit corresponds to that of Item 17 of the Profit and Loss Statement. The remainder of the total of Column 2 deducted from the total of all items in Column 1 will give a figure of depreciation with accuracy corresponding to the accuracy of the appraiser's judgment. Column 3 may be used for testing the inventory appraisal, for in it may be entered later the actual price at which the shoe did sell.

The object of this bulletin is to make clear the treatment of inventories and depreciation on the Profit and Loss Statement of the Harvard System of Accounts for Shoe Retailers, and to show how the Profit and Loss Statement is derived from a set of double entry books as usually kept. Part I is "The Treatment of Depreciation on the Profit and Loss Statement of the Harvard System of Accounts for Shoe Retailers," and Part II, "Instructions for Bookkeepers." About specific rates of depreciation the Bureau will say only a little more than it has already said in Bulletin Number 2. The rapidity of stock-turn (average inventory at billed cost divided into cost of goods sold — see Bulletin Number 1, page 11) has a distinct relation to the importance of depreciation. A large number of stock-turns means not

only that the average inventory on which depreciation is allowed is in smaller proportion to the sales than when the stock-turns are fewer, but also that the average age of the stock is less, and this operates to reduce the ratio of depreciation cost to sales. This point has been well illustrated in the Bureau's study of the retail grocery business, where depreciation has already been found to be a comparatively unimportant matter, because the normal number of stock-turns annually is about ten and because the business has practically no style or size risk. In the retail shoe business, on the other hand, with a normal number of stock-turns of from two to two and one-half a year and a considerable degree of size and style risk, depreciation is of much more importance.

As a means of lessening the risk of loss from depreciation caused by an accumulation of stock and overbuying, the Bureau is providing the Harvard System of Stock-keeping for Shoe Retailers (Bulletin No. 5) based on the best shoe stock-keeping practice found by the Bureau and the most modern methods of stock-keeping in general.

Though referring specially to the retail shoe business some principles of depreciation are discussed in this bulletin of general application to mercantile businesses, whether wholesale or retail—principles that apply to any business where goods are bought to be sold rather than to be used. (See especially pages 6, 18.)

PART I

THE TREATMENT OF DEPRECIATION ON THE PROFIT AND LOSS STATEMENT OF THE HARVARD SYSTEM OF ACCOUNTS FOR SHOE RETAILERS

Depreciation is a loss in value due to wear and tear and the passage of time. In a factory, machines and tools wear out, and they also become less valuable as they become more old-fashioned.

Depreciation In a store, stock not only becomes shop-worn, but also goes out of date. This latter loss is less obvious than the other because it is a loss not of matter but of value. It is, however, inevitable. Depreciation is taken into consideration in determining profits either directly, with measurement in separate accounts, or, as at present in the majority of retail shoe stores, indirectly and without measurement. In the latter case, depreciation is taken either by a reduction of inventory, without showing the amount of reduction, or by clearance sales, which reduce the gross sales and consequently gross profit, without showing the amount of reduction.

Loss from depreciation can be in part avoided by careful buying, guided by carefully kept stock records. Even then, however, the caprice of fashion, with the passing of styles, or an unforeseen local change in sizes demanded by the dealer's customers, may result in a "bad buy" — an "unlucky season."

In the following discussion careful attention should be given to the difference between *gross* and *net* inventories. Gross inventory is the total merchandise on hand at billed cost. Net inventory is this gross inventory with the allowance for depreciation and discount deducted. In that its Profit and Loss Statement uses both gross and net inventories the Harvard System can be called a gross and net system as is further shown on page 16. A specific case illustrates the simple handling of these matters. Though the following figures do not comprise an actual record of any one shoe business, they are based on many such records in the possession of the Bureau, and may be regarded as not in the least theoretical but representing actual experience in the retail shoe trade.

On February 28, 1914, at the end of the first six months of a new retail shoe business, the books show totals which are arranged on the Profit and Loss Statement as follows (numbers at the left correspond

with the numbers of the items of the Harvard System of Accounts for Shoe Retailers):—

Statement for First Period

5 Net Sales		\$20,862.05
6 INVENTORY MDSE. BEGINNING PERIOD..	\$00,000.00	
7 PURCHASES MDSE. AT BILLED COST ...	28,836.00	
8 FREIGHT, EXPRESS & CARTAGE ON PURCHASES OF MDSE.	<u>243.10</u>	
9 Total Merchandise Cost		\$29,079.10
10 Inventory of Mdse. End of Period	\$15,145.38	
Less 11 Discount on Inv. Mdse. ...	\$393.78	
12 Depreciation of Mdse.	<u>1,475.16</u>	<u>1,868.94</u>
13 NET INVENTORY MDSE. END OF PERIOD		13,276.44
14 Net Cost of Merchandise Sold		15,802.66
15 Profit on Merchandise		\$5,059.39
16 CASH DISCOUNTS TAKEN ON PURCHASES MDSE.		<u>749.74</u>
17 Gross Profit on Merchandise		\$5,809.13
44 Total of Expense Statement		<u>5,111.20</u>
45 Net Profit from Merchandise Operations		\$697.93
56 Total Interest		<u>521.55</u>
57 Final Surplus for the Period		\$176.38

Item 11 is obtained by dividing the Cash Discounts taken (Item 16) \$749.74 by Purchases (Item 7) \$28,836, which gives .026, or 2 6/10 %, as the average discount taken. This average, therefore, is assumed to apply to goods still on hand which cost less than billed cost by the amount of this discount. Multiplying the gross inventory (Item 10) \$15,145.38, which inventory was taken at billed cost, by .026 gives \$393.78 as the Discount on Inventory of Merchandise (Item 11) to be deducted from the billed cost value. This is done because a cash discount is not a profit, even though taken, until the goods on which it has been taken have been sold. If this were not done, Item 16, the total cash discounts taken on the purchases of \$28,836, would be reported as a total addition to profit even though on \$15,145.38 worth of that \$28,836 not even the cost of the goods has been recovered to say nothing of any profit.

As the business is new, no depreciation has yet been provided for and the proprietors wish to provide a 10 % allowance for depreciation on the unsold goods carried over at the end of the season. Subtracting the Discount on Inventory, \$393.78, from the gross inventory, \$15,145.38, leaves \$14,751.60, 10 % of which gives a depreciation of \$1,475.16 (Item 12), which also deducted from the gross inventory leaves the Net Inventory at End of Period (Item 13) of \$13,276.44.

This is obvious; but confusion or error may arise when later Profit and Loss Statements are related to this one. Take the statement at the end of the next half-year, August 31, 1914.

Statement for Second Period

5	Net Sales		\$24,110.78
6	INVENTORY MDSE. BEGINNING PERIOD..	\$13,276.44	
7	PURCHASES MDSE. AT BILLED COST	17,259.20	
8	FREIGHT, EXPRESS & CARTAGE ON PURCHASES OF MDSE.	149.30	
9	Total Merchandise Cost		\$30,684.94
10	Inventory of Mdse. End of Period	\$15,294.68	
Less 11	Discount on Inv. Mdse. ...	\$428.25	
12	Depreciation of Mdse.	1,486.64	1,914.89
13	NET INVENTORY MDSE. END OF PERIOD		13,379.79
14	Net Cost of Merchandise Sold		17,305.15
15	Profit on Merchandise		\$6,805.63
16	CASH DISCOUNTS TAKEN ON PURCHASES MDSE.		483.26
17	Gross Profit on Merchandise		\$7,288.89
44	Total of Expense Statement		5,666.03
45	Net Profit from Merchandise Operations		\$1,622.86
56	Total Interest		482.22
57	Final Surplus for the Period		\$1,140.64

In the same way as before, cash discounts taken, \$483.26, divided by purchases (Item 7), \$17,259.20, gives the average rate of 2.8 %, which applied to the gross inventory gives a Discount on Inventory (Item 11) of \$428.25, and this deducted leaves a remainder of \$14,866.43, the depreciation on which, if continued at 10 %, amounts to \$1,486.64 (Item 12), leaving a net inventory (Item 13) of \$13,379.79.

It may be stated here that neither the *arbitrary percentage* method nor the percentage 10 as employed above is actually recommended. On the contrary, for reasons explained on pages 4 and 12, the Bureau recommends the *appraisal* method as the best. Ten per cent would probably be insufficient depreciation for a retail shoe business largely of a specialty nature, and possibly would be too much for one largely staple. The *arbitrary percentage* method, however, besides being very common in the retail shoe trade, serves better than the other methods for purposes of explanation. It clearly illustrates both principles and misconceptions about mercantile depreciation which apply also to the other methods of depreciation, as pointed out on page 19.

Returning to the example, it is most important to note that the apparently heavy cost for depreciation (Item 12) of \$1,486.64 is but a real cost of \$11.48, since \$1,475.16 of the allowance was covered by the depreciation taken at the first inventory (Item 12, Profit and Loss Statement, page 7). The inclusion of the latter sum, therefore, is in one sense nominal, but it is a statistical necessity because the goods are again inventoried at billed cost, that is, the first 10 % taken off has been restored. If the merchandise on hand at the first inventory had been recorded at billed

Much of the depreciation on this second statement nominal only

cost less 10 % and all new goods received since that inventory likewise entered with a value of billed cost less 10 % (no matter at what price or profit they sold), then it would never be necessary to take subsequent allowances of 10 % for depreciations on the Profit and Loss Statement. But it is decidedly important for business purposes to know the billed cost of merchandise on hand, and so inventories are taken at billed cost each time, and the horizontal-percentage reductions are taken afterwards. Consequently there is the appearance at each inventory of a heavy depreciation cost when *really* the depreciation is only upon the *increase* of stock over the last inventory, in this case \$14,866.43 minus \$14,751.60 (inventories with cash discounts deducted) or \$114.83, which at 10 % gives \$11.48 as the *real* depreciation cost at this inventory.

The last paragraph contains the pith of the whole problem of depreciation in mercantile businesses. It is the point that the Bureau has found most difficult to make clear to shoe retailers.

The pith of
the depreciation
problem

As a result of its experience the Bureau believes the following to be the most effective form of explanation. The first merchandise inventory of this new business with discounts deducted amounted to \$14,751.60 (Item 10 of the first statement minus Item 11). On this stock, a depreciation of 10 %, or \$1,475.16, was taken. This is a depreciation once for all at the rate of 10 % on that value of stock. The stock itself is changing continually but on a *value* of stock equivalent to \$14,751.60 a depreciation of 10 % has been taken for all time. Subsequent depreciations need to be taken in reality on increases only of stock above \$14,751.60. Conversely, on decreases of stock below that value, the original depreciation will in reality be reduced if the same rate of depreciation is allowed. This is what automatically happens in any mercantile concern taking its inventories at billed cost and employing the arbitrary-percentage method of depreciation, which is the method employed in this case.

A concrete table will make clearer the point that concerns which customarily deduct a certain percentage from their inventories for depreciation do not necessarily increase the depreciation of those inventories each time. Take three successive inventories, each with a value at billed cost of \$10,000, and depreciate regularly 10 % at each inventory: —

An illustrative
table

THREE SUCCESSIVE INVENTORIES OF THE SAME VALUE AT BILLED
COST WITH AND WITHOUT DEPRECIATION AT 10 %

Inventories at billed cost	Gross Inventory (without de- preciation)	Column A Depreciation on each inven- tory at 10 %. Each inventory at billed cost. Really depreciation on first inventory only, with nominal depreciation there- after. Proper for merchandise	A1 Net Inventory (after deprecia- tion of Column A)	Column B Depreciation cumulative at 10% — the paring method. Amount of last depreciation de- ducted before next percentage is deducted. Proper for fix- tures, but not for merchandise	Further explanation of Column B	B1 Net Inventory (after deprecia- tion of Column B)
First inventory	\$10,000	\$1,000	\$9,000	\$1,000		\$9,000
Second inventory	10,000	1,000	9,000	1,900	Previous \$1,000 plus new 10% of last net in- ventory (10% of \$9,000)	8,100
Third inventory	10,000	1,000	9,000	2,710	Previous \$1,900 plus new 10% of last net in- ventory (10% of \$8,100)	7,290
Difference be- tween first and third inven- tories	000	....	000	....		\$1,710
Difference be- tween first and third deprecia- tions . . . . .	....	000	....	\$1,710		
Difference between inventories, gross and net A1 at first inventory time, \$1,000						
" " " " " A1 " third " "						1,000
" " " " " B1 " first " "						1,000
" " " " " B1 " third " "						2,710

Column A represents the method of depreciation that is employed when a business regularly deducts a certain percentage from each inventory after it has been taken at billed cost. This Summary of table column shows that the total depreciation for three inventories is no greater than the first depreciation or, in other words, that no new depreciation was taken after the first inventory.

The problem has been simplified here by assuming an unchanging inventory, but the principle holds with a varying inventory. If, for example, the inventory increased to \$12,000, it would be found that an additional depreciation of \$200 would be taken as a cost once only, no matter how many subsequent times it was computed; and, similarly, if the inventory decreased to \$8,000, a reduction of depreciation of \$200 would result but once only.

In Column B of the table, the first inventory is taken as a permanent stock to be reduced in value — the paring method, as it has been called. The result in this column is seen to be depreciation in three inventories of \$2,710 distributed over all three, as contrasted with a depreciation of \$1,000 at the first inventory and none additional for the succeeding two inventories in Column A.

Column B is a proper method of depreciation for the fixtures of a store, which are for use and not for sale, but not for the merchandise which is passing through the store. There is not a “turn-over” in fixtures as in merchandise, hence this steady paring method of Column B applies to fixtures as they wear out in the same way that it applies to the equipment of a factory.

Column A represents the percentage method of depreciation as it should be in a normally operating mercantile business, for after the aging of the first few months of the first stock of a new business the average age of stock should become no greater *provided there is at least one stock-turn between each two inventories.* For it can be assumed that in the long run newer goods take the place of goods sold in approximately the same degree that goods not sold grow older. Businesses not conforming to this rule cannot long remain going concerns. Therefore the depreciation of the first few months is not increased except as stock is increased, and consequently the depreciation allowance is not increased save on increases of stock, and is decreased on decreases of stock.

Curiously, many shoe retailers who have employed the percentage method of Column A have thought that they were allowing for a greater depreciation. When they allowed, for example, 10 % a year for depreciation, they thought that they were making liberal provision and were gradually reducing their valuation on old shoes to little or nothing. Remembering that 10 times 10 is 100 they have believed that in ten years they have depreciated all old stock 100 %, or to no value at all; or, in other words, in accord with the paring method of Column B. They have not noticed that new stock constantly takes the place of old and that a depreciation taken on billed cost is in reality taken only once. Applying a 10 % depreciation successively to a \$3 article would pare it to these successive values, \$2.70,

Column A of
the table the
proper method

Curious mis-
conception of
many shoe
retailers

\$2.43, \$2.19, etc. This is what some dealers think they are doing when they apply a constant percentage year after year to billed cost, but many of them never get below \$2.70 for they go back to \$3 at each stock-taking for a fresh start. This, as has been shown, is usually satisfactory. With stock moving fairly well the paring method is seldom necessary, if a depreciation percentage for the *whole* stock is employed, especially when the accuracy of the percentage is checked at times by the appraisal method, since as mentioned on page 4 insufficient depreciation on some portions of the merchandise is likely to be equalized by excessive depreciation on other portions. When, however, stock has been moving slowly for several months the percentage method becomes unreliable and resort should be made at once to the appraisal method. The age-of-stock method quoted on page 4 is in reality a paring method, since it employs a percentage of depreciation increasing with increasing age — 25 % for merchandise more than six months old and 50 % for that more than a year old with some depreciation on merchandise less than six months old. Though less exact than the appraisal method, the age-of-stock method is to be commended as safer than the percentage method in times of slowly moving stock. As to the appraisal method (see also page 4), if the estimated selling prices of Column 2 are not frequently checked by the actual selling prices of Column 3 some form of paring method may well be employed. But more about the appraisal method will be found hereafter (page 19).

A return now to the shoe business under consideration shows the situation at the end of the third period, February 28, 1915, to be as follows: —

Statement for Third Period

5	Net Sales		\$27,075.13
6	INVENTORY MDSE. BEGINNING PERIOD..	\$13,379.79	
7	PURCHASES MDSE. AT BILLED COST ...	16,853.77	
8	FREIGHT, EXPRESS & CARTAGE ON PURCHASES OF MDSE.	139.48	
9	Total Merchandise Cost		\$30,373.04
10	Inventory of Mdse. End of Period	\$13,535.43	
Less 11	Discount on Inv. Mdse.	\$419.60	
12	Depreciation of Mdse.	1,311.58	1,731.18
13	NET INVENTORY MDSE. END OF PERIOD		<u>11,804.25</u>
14	Net Cost of Merchandise Sold		18,568.79
15	Profit on Merchandise		\$8,506.34
16	CASH DISCOUNTS TAKEN ON PURCHASES MDSE.		521.47
17	Gross Profit on Merchandise		\$9,027.81
44	Total of Expense Statement		<u>6,227.28</u>
45	Net Profit from Merchandise Operations		\$2,800.53
56	Total Interest		622.73
57	Final Surplus for the Period		\$2,177.80

A division of discounts by purchases, as before, yields an average discount taken of 3.1 %, which applied to the gross inventory gives \$419.60; this deducted from the inventory leaves \$13,115.83, which with a depreciation of 10 % deducted leaves a net inventory of \$11,804.25.

Again, although an apparently heavy depreciation cost of \$1,311.58 appears on the statement, it must be remembered that in fact this represents no real additional cost. On the contrary, it represents a decrease of \$175.06 from the previous depreciation charge of \$1,486.64. This is because by taking the inventory at billed cost the preceding depreciation is restored, just as the \$3 shoe on page 11 originally depreciated to \$2.70 was restored to \$3.

The Profit and Loss Statement of the Harvard System of Accounts for Shoe Retailers is on neither a strictly gross nor strictly net basis. It does not deal entirely with gross inventories or entirely with net inventories (see also page 6), but is a combination of both, utilizing the gross and net inventories so as to show the billed value, the depreciation, and the actual values. For example, Item 13 — Net Inventory of Merchandise at End of Period — is net, and is carried as Item 6 — Inventory of Merchandise at Beginning of Period — of the next statement. Items 6 and 13 then are net figures, but Item 10 — Inventory of Merchandise at End of Period — is a gross figure from which the succeeding net inventory figure is obtained by deducting discount and depreciation on inventory. Arranging the three preceding statements in a comparative table and on three different bases — gross, net, and combined — will show the resulting profit to be the same though the calculations for determining it are different. It will furthermore show how a reduction in the allowance for depreciation is in one sense a gain, just as an increase is a loss.

Item of
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ment

A COMPARATIVE TABLE OF THE THREE STATEMENTS

	Net Basis	1st — Feb. 28, 1914
5 Net Sales		\$20,862.05
6 Inventory of Mdse. at Beginning of Period	\$00,000.00	
7 Purchases of Mdse. at Billed Cost	28,836.00	
8 Freight, Express and Cartage on Purchases	243.10	
9 Total Mdse. Cost	\$29,079.10	
13 Net Inventory of Mdse. at End of Period	13,276.44	
14 Net Cost of Mdse. Sold		15,802.66
15 Profit on Mdse.		\$5,059.39
16 Cash Discounts Taken on Purchases of Mdse.		749.74
17 Gross Profit on Mdse.		\$5,809.13

	Gross Basis	
5 Net Sales		\$20,862.05
6 Inventory of Mdse. at Beginning of Period (Gross)	\$00,000.00	
7 Purchases of Mdse. at Billed Cost	28,836.00	
8 Freight, Express and Cartage on Purchases	243.10	
9 Total Mdse. Cost	\$29,079.10	
10 Inventory (Gross) of Mdse. at End of Period	15,145.38	
Gross Cost of Mdse. Sold	\$13,933.72	
11 Discount on Inventory of Mdse., plus		
12 Depreciation of Mdse.	1,868.94	
14 Net Cost of Mdse. Sold		15,802.66
15 Profit on Mdse.		\$5,059.39
16 Cash Discounts Taken on Purchases of Mdse.		749.74
17 Gross Profit on Mdse.		\$5,809.13

	Combined Basis	
	(Harvard System of Accounts for Shoe Retailers)	
5 Net Sales		\$20,862.05
6 Inventory of Mdse. at Beginning of Period	\$00,000.00	
7 Purchases of Mdse. at Billed Cost	28,836.00	
8 Freight, Express and Cartage on Purchases	243.10	
9 Total Mdse. Cost		\$29,079.10
10 Inventory of Mdse. at End of Period	\$15,145.38	
Less 11 Discount on Inventory of Mdse.	\$393.78	
12 Depreciation of Mdse.	1,475.16	1,868.94
13 Net Inventory of Mdse. at End of Period		13,276.44
14 Net Cost of Mdse. Sold		15,802.66
15 Profit on Mdse.		\$5,059.39
16 Cash Discounts Taken on Purchases		749.74
17 Gross Profit on Mdse.		\$5,809.13

¹ Increase over the first depreciation and discount, and hence an increase in cost.

ON THREE BASES — NET, GROSS, AND COMBINED

2d — Aug. 31, 1914		3d — Feb. 28, 1915	
	\$24,110.78		\$27,075.13
\$13,276.44		\$13,379.79	
17,259.20		16,853.77	
<u>149.30</u>		<u>139.48</u>	
\$30,684.94		\$30,373.04	
<u>13,379.79</u>		<u>11,804.25</u>	
	17,305.15		18,568.79
	\$6,805.63		\$8,506.34
	<u>483.26</u>		<u>521.47</u>
	\$7,288.89		\$9,027.81
\$24,110.78		\$27,075.13	
\$15,145.38		\$15,294.68	
17,259.20		16,853.77	
<u>149.30</u>		<u>139.48</u>	
\$32,553.88		\$32,287.93	
<u>15,294.68</u>		<u>13,535.43</u>	
\$17,259.20		\$18,752.50	
<u>45.95</u> ¹		<u>183.71</u> ²	
	17,305.15		18,568.79
	\$6,805.63		\$8,506.34
	<u>483.26</u>		<u>521.47</u>
	\$7,288.79		\$9,027.81
\$24,110.78		\$27,075.13	
\$13,276.44		\$13,379.79	
17,259.20		16,853.77	
<u>149.30</u>		<u>139.48</u>	
\$30,684.94		\$30,373.04	
\$15,294.68		\$13,535.43	
\$428.25		\$419.60	
<u>1,486.64</u>		<u>1,311.58</u>	
1,914.89		1,731.18	
<u>13,379.79</u>		<u>11,804.25</u>	
	17,305.15		18,568.79
	\$6,805.63		\$8,506.34
	<u>483.26</u>		<u>521.47</u>
	\$7,288.89		\$9,027.81

² Decrease from the second depreciation and discount, and hence a reduction in cost.

The result of the three plans is the same. The difference lies wholly in the explanation of the profit. The net basis shows profit on merchandise figures as given without any *book* record of depreciation on inventory, the record of these items appearing on the inventory sheets only. On the gross basis, depreciation appears at first when actually taken, and then on the difference only between that first depreciation and subsequent depreciations as needed by the differences in inventories. At the second inventory there was an increase in stock, hence an increase in depreciation represented by an addition to the previous depreciation. This was equivalent to an increase in cost and a consequent decrease in profit. At the third inventory just the reverse occurred. There was a decrease in inventory, hence a decrease in depreciation represented by a subtraction from the previous depreciation. This is equivalent to a decrease in cost, and a consequent increase in profit.

On the combined basis plan, which is that of the Harvard System of Accounts for Shoe Retailers, a combination of the gross and the net basis is employed. This gives valuable records of actual and nominal depreciation for present and future comparison. It uses the net beginning inventory brought over from the preceding inventory, and thus gets the cost of merchandise correct at the start; and then, by using the gross inventory at the end, it shows both the depreciation for statistical purposes and the net inventory for the balance sheet. What appeared under the gross basis plan to be a gain through depreciation appears under this plan where it really belongs, in the merchandise account. Merchandise really worth \$13,379.79 is charged up at that figure to the merchandise account (see "Merchandise" account, Part II, page 30), and not at \$15,294.68, as it was on the gross basis plan.

In other words, the *difference* is in the treatment of the inventory at beginning and of depreciation shown. The *gross basis plan* uses the *undepreciated* figure for inventory at the beginning, while the *Harvard plan* uses the *depreciated* figure at the beginning, but the *gross basis plan* charges depreciation as a cost on *increase* of inventory only, whereas the *Harvard plan* shows depreciation on the *entire* inventory; and the result is the same under either plan, as the following illustration for calculating the Net Cost of Merchandise Sold (Item 14) for the second period shows: —

CALCULATION OF NET COST OF MERCHANDISE SOLD (ITEM 14) FOR
THE SECOND PERIOD

Gross basis plan		Combined basis plan (Harvard System of Accounts for Shoe Retailers)	
		Item	
Inventory at Beginning (gross)	\$15,145.38	6	Inventory at Beginning (net) already depreciated \$13,276.44
Purchases of Merchandise .	17,259.20	7	Purchases of Merchandise 17,259.20
Freight, Express & Cartage on Purchases.....	149.30	8	Freight, Express & Cartage on Purchases..... 149.30
Discount on increase in inventory (increase only)...	34.47	11	Discount on Inventory (entire)..... 428.25
Depreciation on increase in inventory (increase only) .	11.48	12	Depreciation of Inventory (entire)..... 1,486.64
	<u>\$32,599.83</u>		<u>\$32,599.83</u>
Less: Inventory at End of Period (gross)	15,294.68	10	Less: Inventory at End of Period (gross)..... 15,294.68
Net Cost of Mdse. Sold ...	<u>\$17,305.15</u>	14	Net Cost of Mdse. Sold... <u>\$17,305.15</u>

A summary of this whole discussion of depreciation in mercantile businesses is:— (1) After an allowance for depreciation has once been adequately made, so long as stock is of the same average age and of the same value at billed cost no further allowance becomes necessary — for the stock is *maintained* at the same ratio of cost to value, and the item of depreciation on the statement is not a cost but a mere deduction for what has been entered, for convenience, above actual value, in the gross inventory. (2) If stock has grown older, a higher rate of depreciation should be used, and the increase will be a new cost. (3) If, on the other hand, the stock is less old, a smaller percentage of depreciation will be required, and the decrease will be a gain. In this case, the profit of the business is partly in what was received from sales and partly in a greater value on the shelves for the same billed cost — a less depreciated value. (4) If the stock has increased, more goods are depreciating, and unless the increase was made at the end of the year (in which case the average age will be less and the preceding case will apply), the same percentage as before will be used; but since it will be used on a larger amount, the depreciation will be more and the increase will be a new cost or loss, taken out of the merchandise inventory. (5) If the stock has decreased, the old percentage applied to a small stock will give smaller depreciation, and the difference will be a gain — realized through a lower cost of merchandise sold.

If, therefore, as has been seen, depreciation in a mercantile business operates most heavily in the first few months of that business, then a fairly high percentage of depreciation on the first inventory and on subsequent increases only, over the value of that inventory is in accord with the facts. The figures in the table on pages 14 and 15 reflect these facts, for on the first statement the gross profit is seen to be only 27.8 % of the net sales, increasing in the second and third statements to 30.2 % and 33.3 % respectively.¹ Furthermore, in some ways in the first year of any business a higher rate of depreciation can be afforded since no old stock is carried into the business and hence, as only new goods are to be sold, there will be normally fewer mark-downs.² So stock carried over for the first time into the next season should be well depreciated. The periodical additional cost of depreciation thereafter will be small, as only increases in

¹ This increase in the rate of profit is also due to a decrease in the ratio of total expense and to an increase in the rate of stock-turn from 2.08 to 2.6 times annually. The significance of stock-turn in connection with depreciation has already been noted (page 4).

² Mark-downs frequently represent depreciation taken between inventories, and do not differ in principle from depreciation allowed at inventory time to which the preceding discussion has been confined. A memorandum of mark-downs can be kept and the totals at inventory treated as Columns 1, 2, and 3 of the appraisal method are treated (see pages 4 and 12). In fact, mark-downs often are an application of the appraisal method between inventories. If, for example, a shoe costing \$2, is marked up to \$3 (33½%), and then marked down to \$2.50 and sold, the mark-down price of \$2.50 reduced by the average gross profit for the business, say 30%, or 75 cents, would be deducted from the cost, giving a new cost after depreciation of \$1.75, which leaves a depreciation of 25 cents (\$2 minus \$1.75) or 12½% on the original billed cost. The record would stand:—

Cost	Sell	Mark-up %	Marked down between inventories to, or appraised at inventory time at	Marked down price reduced by average gross profit of 30 %	Depreciation on original cost
\$2	\$3	33½	\$2.50	\$1.75	\$0.25 = 12½ %

Under the arbitrary percentage method of depreciation with a percentage of 10 this pair of shoes would have been reduced from \$2 to \$1.80, giving on this particular pair, according to the appraisal method, a depreciation insufficient by 2½%. The selling of the shoes between inventories at the mark-down price will be a test of the mark-down value, just as entries in Column 3 of the appraisal method should be a test of the estimated values of shoes unsold at inventory time. If the above pair of shoes were unsold at stock-taking it might be inventoried at billed cost (\$2) and depreciated by the flat percentage of, say 10, or remain at the mark-down figure and be reduced by the average gross profit, or be classified by age and depreciated accordingly—depending on which of the three methods of depreciation is employed. These are described in Bulletin Number 2, and in this bulletin on pages 3 and 4.

value or in average age call for new allowances for depreciation. This is conservative and correct and makes a solid foundation for a dealer's business.

All the previous discussion and examples have been based on the first of the three methods of depreciation — (a) *arbitrary percentage method* (see page 3). The other methods — (b) *age-of-stock percentage method*, and (c) *appraisal method* (see page 4) — would work out in the same way. The only difference would be in the method of securing the figure of depreciation, for the treatment of that figure, once secured, would be the same.

As a matter of fact, the appraisal method if not employed regularly should certainly be employed occasionally, to see that the percentage of depreciation customarily used corresponds with the facts and to provide for extraordinary depreciation. For example, certain portions of the stock may accumulate broken lines and end sizes to such a degree that the ordinary percentage rate of depreciation can by no means cover the actual depreciation, and so a fair appraisal should be made. Furthermore, it should again be emphasized that this fair appraisal should be tested by frequent comparisons with records of actual selling prices of pairs appraised. Column 3 of the appraisal method (see page 4 — c) is provided for these test comparisons (see also footnote to page 18).

Practically all conditions and all common methods of depreciation have now been discussed in connection with the Profit and Loss Statement of the Harvard System of Accounts for Shoe Retailers. For shoe businesses keeping very simple accounts this is probably the only treatment of depreciation required but unless these figures are incorporated on the books it will be necessary to preserve all inventory sheets. For those wishing to enter these details on the general ledger an outline of double entry method is given in Part II for the three statements already considered.

Remainder of
bulletin con-
tains double
entry book-
keeping
instructions

PART II

INSTRUCTIONS FOR BOOKKEEPERS

This second part shows the ledger accounts for the three Profit and Loss Statements discussed in Part I, with special reference to the combined basis method of treating inventories and depreciation. It also illustrates in a general way how the Profit and Loss Statement of the Harvard System of Accounts for Shoe Retailers is drawn from the books.

The treatment of the accounts is in accordance with double entry bookkeeping, universally recognized as the proper method. The ordinary ledger accounts for merchandise transactions are "Purchases," "Sales," "Merchandise," "Cash Discounts," "Freight, etc.," "Inventory," and "Profit and Loss." These accounts give all the information necessary for making up that division of the Profit and Loss Statement entitled Merchandise Statement. So far as the treatment of inventories and depreciation is concerned, only those accounts involving merchandise items need to be considered, but since other main divisions of the Profit and Loss Statement, such as Expense Statement, Other Business Profits or Losses, and Application of Total Operating Net Profit, need consideration in order to show the net results of the operation of the store for each period, a "Total Expense" account and a "Total Interest" account have been included. This "Total Expense" account corresponds to Item 44, Profit and Loss Statement, page 7, and represents the total of the various expense accounts. For brevity, since this explanation is concerned primarily with the merchandise accounts, "Total Expense" only is shown here, in place of the separate expense accounts which would appear on the ledger. The "Total Interest" account represents Item 56, Total Interest and Dividends, of the Profit and Loss Statement. The "Total Expense" account and the "Total Interest" account are closed into the "Profit and Loss" account on the books, the final balance of which is Final Surplus (or Deficit) for the Period, Item 57, Profit and Loss Statement, page 7.

Since no balance from a previous period is brought over into this "Profit and Loss" account, and since the losses, costs, and expense appearing on the debit side and the gains and income on the credit side belong to that period alone, the final balance closed to "Surplus" represents the net results of the business for the single period in question.

In order to make clearer the relation which the books bear to this form of Profit and Loss Statement, the figures used in these accounts are identical with the figures used on the Profit and Loss Statement for the corresponding periods, pages 7, 8, and 12, Part I.

The difference between "Profit and Loss" *account*, as it appears on the books, and the Profit and Loss *Statement* of the Harvard System of Accounts for Shoe Retailers should be noted. The "Profit and Loss" *account* on the books is an integral part of the bookkeeping system and is used chiefly at the close of a period to bring together into one book account all profit and loss items from other accounts, thus causing these accounts to balance and show in the "Profit and Loss" account the final balance of gains or losses, which corresponds to Item 57, of the Profit and Loss *Statement*, Final Surplus (or Deficit), and for each period is ultimately to be transferred from the "Profit and Loss" account to the "Surplus" account on the books.

The "Profit and Loss" *account*, then, is a ledger account for grouping all loss and gain items, which to a certain degree offset each other and give a final balance of loss or gain as represented by the balance of this account after closing, which in these accounts is closed to "Surplus" account.

The Profit and Loss *Statement*, on the other hand, is drawn from the ledger accounts at inventory time, to show, by a logical grouping and analysis, the results of the operations of the period. Its final figure is the Final Surplus (or Deficit) for the Period, Item 57, which is identical with the final balance of the "Profit and Loss" *account*.

The exact entries to each of these book accounts as represented by the items of the Profit and Loss Statement are fully explained in Bulletin Number 2. In brief, the "Purchases" and the "Sales" accounts are current accounts, all merchandise purchases being charged to "Purchases" currently, and all sales, both cash and credit, being credited to the account "Sales." "Cash Discounts," "Freight, etc.," and "Total Expense" are also current accounts, but "Inventory," "Merchandise," and "Profit and Loss" accounts will ordinarily be used only upon closing the books.

To avoid complication, the matter of Returns and Allowances which go to reduce sales has been omitted here and it is assumed that the sales figures used here are Net Sales. If accounts for Returns and Allowances are kept they will be closed into the "Sales" account, thus reducing the gross sales figure, and giving Net Sales. For example, "Returns" account is currently debited with goods which have been sold but are subsequently returned, the customer, or cash, being credited according as the original sale was a credit or a cash sale. At the close

(5) SALES					
Cash	\$20,862.05	Notes Pay.	\$15,000.00	Freight, etc.	\$243.10
		Sales	20,862.05	Total Expense	5,111.20
(7) PURCHASES				Total Interest	521.55
Acc'ts Pay.	\$28,836.00			Acc'ts Pay.	28,086.26
(8) FREIGHT, ETC.					
Cash	\$243.10			ACCOUNTS PAYABLE	
				Cash	\$28,086.26
				Purchases	\$28,836.00
(16) CASH DISCOUNTS				Cash Disc.	749.74
Acc'ts Pay.	\$749.74				
(44) TOTAL FREIGHT				NOTES PAYABLE	
				Cash	\$15,000.00

After closing, and supposing that \$1,500 of cash is applied on notes payable, the accounts would look as follows, for the reasons given later: —

(5) SALES		CASH	
P. & L. 2/28/14	<u>\$20,862.05</u>	Notes Pay. ...	\$15,000.00
Cash	.....	Sales	.....
		Total Expense	.....
		Total Interest	.....
(7) PURCHASES		Acc'ts Pay.	28,086.26
Acc'ts Pay.	<u>\$28,836.00</u>	Notes Pay.	1,500.00
		Balance	.....
			<u>\$35,862.05</u>
		Balance	.....
			<u>\$399.94</u>

(10) INVENTORY 2/28/14

Mdse.	\$15,145.38	P. & L. 2/28/14 (Inv. Dis.)	\$393.78
		P. & L. 2/28/14 (Inv. Dep.)	1,475.16
Balance	<u>13,276.44</u>		<u>\$15,145.38</u>
	<u>\$15,145.38</u>		
Balance	\$13,276.44		

MERCHANDISE

Purchases	\$28,836.00	Inv. 2/28/14	\$15,145.38
		P. & L. 2/28/14	13,690.62
	<u>\$28,836.00</u>		<u>\$28,836.00</u>
	<u>\$28,836.00</u>		

(8) FREIGHT, ETC.

Cash	<u>\$243.10</u>	P. & L. 2/28/14	<u>\$243.10</u>
	<u>\$243.10</u>		

(16) CASH DISCOUNTS

P. & L. 2/28/14	<u>\$749.74</u>	Acct's Pay.....	<u>\$749.74</u>
	<u>\$749.74</u>		

(44) TOTAL EXPENSE

Cash	<u>\$5,111.20</u>	P. & L. 2/28/14	<u>\$5,111.20</u>
	<u>\$5,111.20</u>		

(56) TOTAL INTEREST

Cash	<u>\$521.55</u>	P. & L. 2/28/14	<u>\$521.55</u>
	<u>\$521.55</u>		

ACCOUNTS PAYABLE

Cash	\$28,086.26	Purchases	\$28,836.00
Cash Disc.	749.74		<u>\$28,836.00</u>
	<u>\$28,836.00</u>		<u>\$28,836.00</u>
	<u>\$28,836.00</u>		

NOTES PAYABLE

Cash	\$1,500.00	Cash	\$15,000.00
Balance	<u>13,500.00</u>		<u>\$15,000.00</u>
	<u>\$15,000.00</u>	Balance	\$13,500.00
			<u>\$13,500.00</u>

PROFIT AND LOSS 2/28/14

Mdse.	\$13,690.62	Sales	\$20,892.05
Freight, etc.	243.10	Cash Disc.	749.74
Inv. 2/28/14 (Inv. Disc.)	393.78		
Inv. 2/28/14 (Inv. Dep.)	1,475.16		
Total Expense	5,111.20		
Total Interest	521.55		
Surplus.....	176.38		
	<u>\$21,611.79</u>		<u>\$21,611.79</u>
	<u>\$21,611.79</u>		

(57) SURPLUS

P. & L. 2/28/14.	\$176.38
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of the period this account "Returns" is credited and the "Sales" account debited for the total returns for the entire period. The credit balance of "Sales" after "Returns" and "Allowances" have been closed into it, is Net Sales, Item 5, of the Profit and Loss Statement.

It is assumed that this is a new business which began with a working capital of \$15,000, borrowed on notes, represented on the ledger by the "Notes Payable" account. "Accounts Payable" is a controlling account representing the total owed to all individual creditors for goods purchased. The working capital supplied by "Notes Payable" enables the business to pay promptly and take cash discounts as offered. At the close of each period, part of the cash balance is applied on the notes payable, thus reducing this liability. All sales are for cash, the business being on a strictly cash basis.

At the end of the first period, February 28, 1914, before any accounts were closed, the books show the accounts mentioned, as on page 22.¹

A "Merchandise" account is opened, and into it is closed "Purchases." The "Merchandise" account is then credited with "Inventory 2/28/14," an account of the same name being opened. The balance of the "Merchandise" account is then closed into "Profit and Loss" as part of the cost of goods sold. "Inventory 2/28/14" is next credited with Discount on Inventory, and with Depreciation of Inventory, Items 11 and 12, Profit and Loss Statement, page 7, — both of these, with "Freight, etc.," being charged to the "Profit and Loss" account. The total of the debits to this account at this point represents the Net Cost of Merchandise Sold, Item 14, Profit and Loss Statement, page 7. "Sales" and "Cash Discounts" are then closed into "Profit and Loss" — that is, they are debited and "Profit and Loss" is credited for their balances. The Gross Profit on Merchandise, Item 17, Profit and Loss Statement, can then be found and proved with the Statement by deducting the total of the first four debit items of the "Profit and Loss" account from the total credits to the "Profit and Loss" account, that is, "Sales," and "Cash Discounts." "Total Expense" (Item 44), and "Total Interest" (Item 56), are then closed into "Profit and Loss" account, the balance of which is Item 57,

¹ The numbers before the titles of these accounts correspond to the numbers of the items on the Profit and Loss Statement, page 7, and accounts so numbered will be seen to contain the same figures as similarly numbered items of the Profit and Loss Statement, page 7. These accounts are kept in double entry and the word before the figures for amounts indicates the name of the account in which the other side of the entry will be found: e. g., in the "Sales" account, credit side, appears "Cash, \$20,862.05"; "Cash" means that the debit corresponding to this credit to the "Sales" account will be found in the "Cash" account, debit side.

Final Surplus for the Period, Profit and Loss Statement, page 7, and is transferred to the "Surplus" account, as explained on page 20.

After closing, the trial balance of these accounts is as follows: —

Trial Balance, First Period, Feb. 28, 1914

Cash	\$399.94	Notes Pay.	\$13,500.00
Inv. 2/28/14	13,276.44	Surplus	176.38
	<u>\$13,676.38</u>		<u>\$13,676.38</u>

The balance of "Inventory 2/28/14" (\$13,276.44) is now Item 13, Profit and Loss Statement, page 7, that is, Net Inventory at End of Period, and will be Item 6, Inventory at Beginning of Period, at the beginning of the second period.

The books have now been closed and the accounts show the figures necessary to make up the Profit and Loss Statement of the Harvard System of Accounts for Shoe Retailers, as shown on page 7. The following table shows how this statement is derived from these accounts: —

Profit and Loss Statement Items	Figures	Source
5 Net Sales	\$20,862.05	"Sales" account
6 INVENTORY AT BEGINNING OF PERIOD	00,000.00	.....
7 PURCHASES AT BILLED COST	28,836.00	"Purchases" account
8 FREIGHT, EXPRESS & CARTAGE ON PUR.	243.10	"Freight, etc." account
9 Total Merchandise Cost	29,079.10	Sum of Items 6, 7, and 8
10 Inventory at End of Period	15,145.38	"Inventory 2/28/14" account
11 Discount on Inventory	393.78	" " "
12 Depreciation of Inventory	1,475.16	" " "
13 NET INVENTORY AT END OF PERIOD	13,276.44	" " "
14 Net Cost of Merchandise Sold	15,802.66	Item 9 minus Item 13
15 Profit on Merchandise	5,059.39	Item 5 minus Item 14
16 CASH DISCOUNTS TAKEN ON PUR.	749.74	"Cash Discounts" account
17 Gross Profit on Merchandise	5,809.13	Item 15 plus Item 16
44 Total of Expense Statement	5,111.20	"Total Expense" account
56 Total interest	521.55	"Total Interest" account
57 Final Surplus for the Period	176.38	"Surplus" account

At the beginning of the second period, the balances of the accounts on the ledger, according to the trial balance are: —

INVENTORY 2/28/14	CASH
Balance \$13,276.44	Balance \$399.94
NOTES PAYABLE	SURPLUS
Balance \$13,500.00	P. & L. 2/28/14 \$176.38

This "Inventory 2/28/14" balance was the gross Inventory at the End of the first period less Discount on Inventory and Depreciation of

(5) SALES		MERCHANDISE	
Cash	\$24,110.78	Inv. 2/28/14 ..	\$13,276.44
		CASH	
(7) PURCHASES		Balance	\$399.94
Acc'ts Pay. ...	\$17,259.20	Total Expense	\$149.30
		Total Interest	5,666.03
		Acc'ts Pay.	482.22
			16,775.94
Cash	\$149.30	ACCOUNTS PAYABLE	
		Cash	\$16,775.94
(10) INVENTORY 2/28/14		Purchases	\$17,259.20
Balance	\$13,276.44	Cash Disc.	483.26
		NOTES PAYABLE	
(16) CASH DISCOUNTS		Balance	\$13,500.00
Acc'ts Pay.	\$483.26		
		(57) SURPLUS	
(44) TOTAL EXPENSE		P. & L. 2/28/14	\$176.38
Cash	\$5,666.03		
(56) TOTAL INTEREST			
Cash	\$482.22		

The closing inventory can now be entered and the accounts closed for the second period, assuming that \$1,000 of cash is used to pay notes.

(5) SALES		CASH	
P. & L. 8/31/14	\$24,110.78	Balance	\$399.94
		Sales	24,110.78
		Freight, etc.	\$149.30
		Total Expense	5,666.03
		Total Interest	482.22
		Acc'ts Pay.	16,775.94
		Notes Pay.	1,000.00
		Balance	437.23
Acc'ts Pay. ...	\$17,259.20		\$24,510.72
		Balance	\$437.23

(10) INVENTORY 8/31/14			ACCOUNTS PAYABLE		
Mdse.	\$15,294.68	P. & L. 8/31/14 (Inv. Dis.)	\$428.25	Cash	\$16,775.94
		P. & L. 8/31/14 (Inv. Dep.)	1,486.64	Purchases	\$17,259.20
		Balance	13,379.79	Cash Disc.	483.26
			<u>\$15,294.68</u>		<u>\$17,259.20</u>
Balance	<u>\$13,379.79</u>				
MERCHANDISE			NOTES PAYABLE		
Inv. 2/28/14 ..	\$13,276.44	Inv. 8/31/14	\$15,294.68	Cash	\$1,000.00
Purchases	17,259.20	P. & L. 8/31/14	15,240.96	Balance	12,500.00
	<u>\$30,535.64</u>		<u>\$13,500.00</u>		<u>\$13,500.00</u>
				Balance	\$12,500.00
(8) FREIGHT, ETC.			PROFIT AND LOSS 8/31/14		
Cash	<u>\$149.30</u>	P. & L. 8/31/14	\$149.30	Mdse.	\$15,240.96
				Freight, etc.	149.30
				Inv. 8/31/14 (Inv. Disc.)	428.25
				Inv. 8/31/14 (Inv. Dep.)	1,486.64
				Total Expense	5,666.03
P. & L. 8/31/14	<u>\$483.26</u>	Acc'ts Pay.	\$483.26	Total Interest	482.22
				Surplus	1,140.64
					<u>\$24,594.04</u>
(44) TOTAL EXPENSE			(57) SURPLUS		
Cash	<u>\$5,666.03</u>	P. & L. 8/31/14	\$5,666.03	P. & L. 2/28/14	\$176.38
				P. & L. 8/31/14	1,140.64
(56) TOTAL INTEREST					
Cash	<u>\$482.22</u>	P. & L. 8/31/14	\$482.22		

Inventory; that is, the Net Inventory at the End of the first period, Item 13, Profit and Loss Statement, page 7. According to the combined basis method of the Harvard System of Accounts for Shoe Retailers this Net Inventory at the End of the first period now becomes Inventory at the Beginning of the second period, Item 6, Profit and Loss Statement, page 8, but on the ledger it is not necessary to open a new account to record this fact, for, since the Net Inventory at the End of the first period and the Inventory at the Beginning of the second period are identical, this "Inventory 2/28/14" balance is closed directly into the "Merchandise" account of the second period.

At the end of the second period, after the closing of the "Inventory 2/28/14" balance into "Merchandise" account, but before the closing of the other accounts, the books will look as on pages 26 and 27. The closing process is the same as for the first period, and is explained in detail on page 24.

How this treatment of Inventories, Discount on Inventory, and Depreciation of Inventory furnishes figures which accord with the combined basis as advocated by the Harvard System of Accounts, is apparent. From page 14 it will be seen that this combined method shows on the Profit and Loss Statement, as Item 6, the Inventory at the Beginning of the Period; Item 10, Inventory at the End of the Period, reduced by Item 11, Discount on Inventory, and Item 12, Depreciation of Inventory, gives Item 13, Net Inventory at End of Period. This Net Inventory at the End of Period, Item 13, of one period becomes the Inventory at the Beginning of the Period, Item 6, of the following period. On the books this fact is recorded as follows:—In the first period, the balance of "Inventory 2/28/14" after deducting discount and depreciation of inventory was \$13,276.44 which figure agrees with Item 13, Net Inventory at the End of the first period, page 7, Profit and Loss Statement. At the beginning of the second period this inventory balance of \$13,276.44 was closed into the "Merchandise" account of the second period—this debit to "Merchandise" of \$13,276.44 corresponding to Item 6, Inventory at Beginning of the second period, Profit and Loss Statement, page 8. The inventory at the end of the second period was \$15,294.68. This amount was credited to "Merchandise" and charged to "Inventory 8/31/14," this debit corresponding to Item 10, Inventory at End of Period, Profit and Loss Statement, page 8. This "Inventory 8/31/14" was then reduced by credits of \$428.25 for Discount on Inventory, and \$1,486.64 for Depreciation of Inventory, both of which were charged to "Profit and Loss" account and correspond respectively to Items 11 and 12 of the Profit and Loss Statement, page 8. The balance of "Inventory 8/31/14," \$13,379.79,

was then brought forward. It agrees with Item 13, Net Inventory at End of Period, Profit and Loss Statement, page 8, and also with Item 6, Inventory at Beginning of the third period, Profit and Loss Statement, page 12. This balance on the books is to be closed into "Merchandise" account for the third period, and in this way the necessary information for the combined basis method is easily available.

After the books have been closed for the second period the trial balance is as follows: —

Trial Balance, Second Period, August 31, 1914

Cash	\$437.23	Notes Pay.	\$12,500.00
Inv. 8/31/14	<u>13,379.79</u>	Surplus	<u>1,317.02</u>
	\$13,817.02		\$13,817.02

A table similar to that for the first period, page 25, would make it readily apparent from which book account each item of the Profit and Loss Statement of the Harvard System of Accounts for Shoe Retailers, page 8, was taken—Item 13, Net Inventory at End of the first period, being identical with Item 6, Inventory at the Beginning of the second period.

To continue with these accounts through the third and last period, the balances at the beginning of the third period according to the foregoing trial balances are: —

INVENTORY 8/31/14	CASH
Balance.. \$13,379.79	Balance.. \$437.23
NOTES PAYABLE	SURPLUS
Balance.. \$12,500.00	Balance.. \$1,317.02

At the end of the third period, after closing "Inventory 8/31/14" balance into "Merchandise" account for the third period, but before the other accounts have been closed, the books look as follows: —

(5) SALES		MERCHANDISE	
Cash	\$27,075.13	Inv. 8/31/14 ..	\$13,379.79
(7) PURCHASES		CASH	
Acc'ts Pay.	\$16,853.77	Balance	\$437.23
		Sales	27,075.13
(8) FREIGHT, ETC.		Total Expense	\$139.48
Cash	\$139.48	Total Interest	6,227.28
		Acc'ts Pay.	622.73
(10) INVENTORY 8/31/14		Notes Pay.	16,332.30
Balance	\$13,379.79	Balance	190.57
			<u>\$27,512.36</u>
(16) CASH DISCOUNTS			<u>\$190.57</u>
Acc'ts Pay.	\$521.47		
(44) TOTAL EXPENSE		ACCOUNTS PAYABLE	
Cash	\$6,227.28	Cash	\$16,332.30
(56) TOTAL INTEREST		Cash Disc.	521.47
Cash	\$622.73		
		NOTES PAYABLE	
		Balance	\$12,500.00
		(57) SURPLUS	
		P. & L. 2/28/14	\$176.38
		P. & L. 8/31/14	1,140.64

The process of closing is again the same as that of the previous periods explained on page 24, and after closing, with \$4,000 of cash applied on notes payable, the accounts stand as follows: —

(5) SALES		CASH	
P. & L. 2/28/15	\$27,075.13	Balance	\$437.23
Cash	\$27,075.13	Sales	27,075.13
		Total Expense	\$139.48
(7) PURCHASES		Total Interest	6,227.28
Acc'ts Pay.	\$16,853.77	Acc'ts Pay.	622.73
		Notes Pay.	16,332.30
		Balance	4,000.00
			<u>\$27,512.36</u>
			<u>\$190.57</u>

(10) INVENTORY 2/28/15

Mdse.	\$13,535.43	P. & L. 2/28/15 (Inv. Dis.)	\$419.60
		P. & L. 2/28/15 (Inv. Dep.)	1,311.58
		Balance	11,804.25
	<u>\$13,535.43</u>		<u>\$13,535.43</u>
Balance	\$11,804.25		

MERCHANDISE

Inv. 8/31/14 ..	\$13,379.79	Inv. 2/28/15	\$13,535.43
Purchases	16,853.77	P. & L. 2/28/15	16,698.43
	<u>\$30,233.56</u>		<u>\$30,233.56</u>

(8) FREIGHT, ETC.

Cash	<u>\$139.48</u>	P. & L. 2/28/15	<u>\$139.48</u>
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(16) CASH DISCOUNTS

P. & L. 2/28/15	<u>\$521.47</u>	Acc'ts Pay.	<u>\$521.47</u>
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(44) TOTAL EXPENSE

Cash	<u>\$6,227.28</u>	P. & L. 2/28/15	<u>\$6,227.28</u>
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(56) TOTAL INTEREST

Cash	<u>\$622.73</u>	P. & L. 2/28/15	<u>\$622.73</u>
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ACCOUNTS PAYABLE

Cash	\$16,332.30	Purchases	\$16,853.77
Cash Disc.	521.47		
	<u>\$16,853.77</u>		<u>\$16,853.77</u>

NOTES PAYABLE

Cash	\$4,000.00	Balance	\$12,500.00
Balance	<u>8,500.00</u>		<u>\$12,500.00</u>
		Balance	<u>\$8,500.00</u>

PROFIT AND LOSS 2/28/15

Mdse.	\$16,698.13	Sales	\$27,075.13
Freight, etc.	139.48	Cash Disc.	521.47
Inv. 2/28/15 (Inv. Disc.).	419.60		
Inv. 2/28/15 (Inv. Dep.)	1,311.58		
Total Expense	6,227.23		
Total Interest	622.73		
Surplus	<u>2,177.80</u>		
	<u>\$27,596.60</u>		<u>\$27,596.60</u>

(57) SURPLUS

P. & L. 2/28/14	\$176.38
P. & L. 8/31/14	1,140.64
P. & L. 2/28/15	2,177.80

The trial balance of these accounts for the third period is as follows: —

Trial Balance, Third Period, February 28, 1915

Cash	\$190.57	Notes Pay.	\$8,500.00
Inv. 2/28/15	11,804.25	Surplus	3,494.82
	<u>\$11,994.82</u>		<u>\$11,994.82</u>

The same methods would be followed for the fourth and each succeeding period. Although the books do not show a separate account for each item of the Profit and Loss Statement, the table on page 25 shows how the Profit and Loss Statement is derived from the accounts kept as outlined above. From these accounts it is possible to keep a memorandum of the actual cost of depreciation at each inventory such as the following: —

Period	Inventory less discount	Depreciation reported. Cumulative depreciation cost (See Inventory accounts)		Actual depreciation cost for each period
1st 2/28/14	\$14,751.60	10 %	\$1,475.16	\$1,475.16
2d 8/31/15	14,866.43	10 %	1,486.64	11.48
3d 2/28/15	13,115.83	10 %	1,311.58	— 175.06

This table shows the actual cumulative depreciation at any period and the actual depreciation cost for any period. For example, not only is there no depreciation cost for the third period but it is even reduced \$175.06, and the cumulative depreciation at the end of the third period is reduced by the same amount, because the inventory for this period is less, as was explained in Part I. This table also makes clearer the relation as presented (page 14) between the gross basis method and the combined basis method of the Harvard System of Accounts for Shoe Retailers.

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